

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application:

1 - 20. (Cancelled)

21. (Currently Amended) A method for determining an actual position of a geodetic instrument comprising a positioning system which is based on the reception of shadowable signals of the positioning system and a dead range within which the propagation of the signal is impaired in such a way that a direct determination of the actual position by means of the positioning system is at least limited comprising the following acts:

recording of a first piece of image information from a first known position determined by means of the positioning system which is based on the reception of shadowable signals of the positioning system and the dead range within which the propagation of the signal is impaired in such a way that a direct determination of the actual position by means of the positioning system is at least limited, the first piece of image information having at least two identifiable reference structures which can be detected at least from a partial region of the dead range and measurement of at least one first distance from the first known position, the first distance being coordinated indirectly or directly with the reference structures;

recording of a second piece of image information from a second known position determined by means of the positioning system, the second piece of image information having at least the two identifiable reference structures and measurement of at least one second distance from the second known position, the second distance being coordinated indirectly or directly with the reference structures;

recording of a piece of actual image information from ~~[[an]]the~~ actual position, the actual image information having at least the two identifiable reference structures and measurement of at least one actual distance from the actual position, the actual distance being coordinated indirectly or directly with the reference structures;

derivation of the actual position of the geodetic instrument by referencing relative to the at least two reference structures.

22. (Previously Presented) The method according to Claim 21, further comprising repeating individual acts or a plurality of the acts set forth in Claim 21.

23. (Previously Presented) The method according to Claim 21, wherein one distance is measured in each case in the measurement of the distances to each of the reference points.

24. (Previously Presented) The method according to Claim 21, wherein a measurement of the distance to each point of a detected image is effected in the recording of the image information.

25. (Previously Presented) The method according to Claim 21, wherein the position of the two reference structures is determined in the derivation of the actual position.

26. (Previously Presented) The method according to Claim 25, wherein the derivation of the actual position is effected by means of a trilinear surveying method.

27. (Previously Presented) The method according to Claim 21, wherein, in the derivation of the actual position, a transformation is used which links the actual position via the at least two reference structures to the first known position and the second known position.

28. (Previously Presented) The method according to Claim 21, wherein the measurement of the distances is carried out by means of optical distance measurement.

29. (Previously Presented) The method according to Claim 28, wherein the measurement of the distances is carried out by means of laser distance measurement.

30. (Previously Presented) The method according to Claim 21, wherein the positioning system includes a satellite-supported system.

31. (Previously Presented) The method according to Claim 30, wherein the positioning system includes a Global Positioning System.

32. (Previously Presented) The method according to Claim 21, wherein the positioning system includes an Earth-supported system.

33. (Previously Presented) The method according to claim 32, wherein the positioning system includes a Total Positioning System.

34. (Previously Presented) The method according to Claim 21, wherein the at least two reference structures are tracked and/or identified automatically.

35. (Previously Presented) The method according to Claim 21, wherein at least the first piece of image information is stored and the at least two reference structures in the second piece of image information and/or the actual image information are identified by image processing methods.

36. (Previously Presented) The method according to Claim 35, wherein the at least two reference structures in the second piece of image information and/or the actual image information are identified by matching methods.

37. (Previously Presented) The method according to Claim 21, wherein the recording of the first and second pieces of image information and the measurement of the first and second distances are carried out in an automated manner.

38. (Previously Presented) The method according to claim 37, wherein the recording of the first and second pieces of image information and the measurement of the first and second distances are constantly repeated.

39. (Previously Presented) The method according to Claim 38, wherein, in the event of a limitation of the direct determination of the actual position by means of the positioning system, the derivation of the actual position is effected in an automated manner.

40. (Previously Presented) The method according to claim 39, wherein, in the event of a limitation of the direct determination of the action position by means of the positioning system, the derivation of the actual position is effected repeatedly or continuously.

41. (Previously Presented) A device for determining an actual position of a geodetic instrument according to the method of claim 21, the device comprising the following:
image recording unit;
telemeter;
data processing unit configured to derive the actual position, wherein the device configured to perform the method of claim 21 in an automated manner.

42. (Previously Presented) The device according to Claim 41, wherein the image recording unit includes an image memory and/or an image information memory.

43. (Previously Presented) The device according to Claim 41, wherein the telemeter is a laser telemeter.

44. (Previously Presented) The device according to Claim 41, wherein the telemeter is integrated in the image recording unit.

45. (Previously Presented) The device according to Claim 44, wherein the telemeter is integrated in the image recording unit in the form of a range imaging sensor or of a scanning telemeter.

46. (Previously Presented) The device according to Claim 44, wherein the data processing unit is formed in such a way that a limitation of the direct determination of the actual position by means of the positioning system is recognizable and an alarm and/or an automated derivation of the actual position is triggered.

47. (Previously Presented) The device according to Claim 44, further comprising an inclinometer.

48. (Previously Presented) The device according to Claim 44, further comprising a direction meter.

49. (Previously Presented) The device according to claim 48, wherein the direction meter includes a magnetic compass.

50. (Currently Amended) A geodetic instrument comprising a unit for position determination by means of a positioning system based on the reception of shadowable signals of the positioning system and a device according to Claim 44.

51. (Previously Presented) The geodetic instrument according to claim 50, the unit for position determination including a reflector for geodetic surveying or a GPS receiver.

52. (Currently Amended) A non-transitory data medium having a computer program stored on the data medium for carrying out the method according to claim 21.